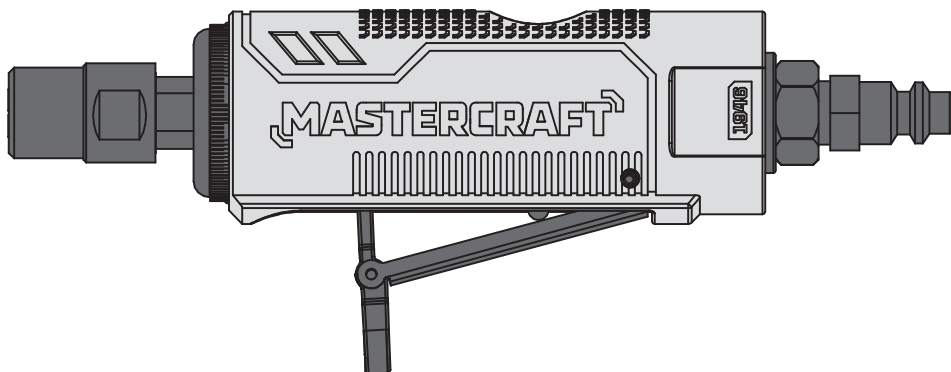




model no. 058-1970-8

1/4" AIR FULL DIE GRINDER



IMPORTANT:

For your own safety, read and follow all of the Safety Guidelines and Operating Instructions before operating this die grinder. Keep this manual for future reference.

INSTRUCTION MANUAL

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NOTE: If any parts are missing or damaged, or if you have any questions, please call our toll-free helpline at 1-800-689-9928.



SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions. Read all instructions and follow them with use of this product.

COLLET	1/4"
SPEED (NO LOAD)	25,000 RPM
CFM REQUIREMENT	3.0 @ 90 PSI
WORKING PRESSURE	90 PSI (6.2 bar)
AIR INLET	1/4"-18 NPT
AIR HOSE REQUIRED	3/8" (9.5 mm)
WEIGHT	12.7 oz (0.36 kg)

CFM: Cubic Feet per Minute (the volumetric flow rate of air corrected to standardized conditions of temperature and pressure).

NPT: National Pipe Thread.

SAFETY GUIDELINES

This manual contains information that relates to PROTECTING PERSONAL SAFETY and PREVENTING EQUIPMENT PROBLEMS. It is very important to read this manual carefully and understand it thoroughly before using the product. The symbols listed below are used to indicate this information.



DANGER!

Potential hazard that will result in serious injury or loss of life.



WARNING!

Potential hazard that could result in serious injury or loss of life.



CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

Note: The word "Note" is used to inform the reader of something he/she needs to know about the tool.

PERSONAL SAFETY

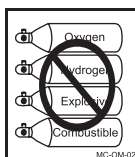
These precautions are intended for the personal safety of the user and others working with the user. Please take time to read and understand them.

SAFETY GUIDELINES

**DANGER!**

Potential hazard that will result in serious injury or loss of life.

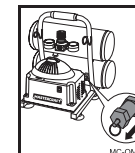
- **Keep children away** from the work area. Do not allow children to handle power tools.
- **Do not use a tool that is leaking air**, that has missing or damaged parts, or that requires repairs. **Verify that all screws are securely tightened.**
- **Never attempt to override tool safety features.**
- **Do not allow unskilled or untrained individuals to operate** an Air-powered Full-size Die Grinder or any other air-powered tool.
- **Do not use oxygen or any other combustible or bottled gas** to power air-powered tools. Failure to observe this warning can cause explosion and serious personal injury or death. Use only compressed air to power air-powered tools. Use a minimum of 25' (7.6 m) of hose to connect the tool to the compressor. Failure to comply will result in serious injury or loss of life.



- **Risk of electric shock:** Do not expose a compressor to rain. Store it indoors. Disconnect the compressor from the power source before servicing. Compressor must be grounded. Do not use grounding adaptors.
- **Risk of personal injury:** Do not direct compressed air from the air hose toward the user or other personnel.



- **Risk of inhalation:** Never directly inhale the air produced by the compressor.
- **Risk of bursting:** Do not adjust the pressure switch or safety valve for any reason. They have been preset at the factory for this compressor's maximum pressure. Tampering with the pressure switch or the safety valve may cause personal injury or property damage.
- **Risk of burns:** The pump and the manifold generate high temperatures. In order to avoid burns or other injuries, do not touch the pump, the manifold, or the transfer tube while the compressor is running. Allow the parts to cool down before handling or servicing. Keep children away from the compressor at all times.
- **Risk of bursting:** Make sure the regulator is adjusted so that the compressor outlet pressure is set lower than the maximum operating pressure of the tool. Before starting the compressor, pull the ring on the safety valve to make sure the valve moves freely. Drain water from tank after each use. Do not weld or repair tank. Relieve all pressure in the hose before removing or attaching accessories.



**WARNING!**

Potential hazard that could result in serious injury or loss of life.

- **Always ensure that the workpiece is firmly secured** leaving both hands free to control the tool.
- **Always keep your air tool clean and lubricated.** Daily lubrication is essential to avoid internal corrosion and possible failure.
- **Do not overload the tool.** Allow the tool to operate at its optimum speed for maximum efficiency. Excessive overload can cause the tool casing to split, and may also lead to excessive wear on moving parts and possible failure.
- **Use only the light weight coil hoses** for connecting the tool to the compressor coupling. Do not fit quick change couplings onto the tool, as the vibration can lead to damage or failure of the coupling.
- **Always ensure that the tool has stopped before connecting it to the air supply.**
- **Verify that grinding accessories that are used with this tool are rated at or above the tool's speed rating** (25,000 RPM). Failure to properly match the accessory to the tool could result in serious personal injury.
- **Always ensure that the accessories are rated/designed for use with the tool.**
- **Ensure that the accessories are correctly and securely fastened** before connecting the tool to the air supply.
- **Locate the compressor in a well-ventilated area** for cooling, at a minimum of 12" (31 cm) away from the nearest wall.
- **Protect the air hose and the power cord from damage and puncture. Inspect them for weak or worn spots every week,** and replace them if necessary.
- **Always wear hearing protection** when using the air compressor. Failure to do so may result in hearing loss.
- **Do not carry the compressor while it is running.**
- **Do not operate the compressor if it is not in a stable position.**
- **Do not operate the compressor on a rooftop or in an elevated position** that could allow the unit to fall or be tipped over.
- **Always replace a damaged gauge** before operating the unit again.

**CAUTION!**

Potential hazard that may result in moderate injury or damage to equipment.

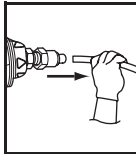
- **Keep proper footing at all times in order to ensure correct balance.**
- **Do not wear watches, rings, bracelets, or loose clothing** when using any air tool.
- For optimal safety and tool performance, **inspect the tool daily** in order to ensure free movement of the trigger, safety mechanisms, and springs.
- **Keep the work area clean.** A cluttered or dirty workbench may lead to an accident. Floors should be kept clear.
- **This tool is not a toy. Use it with caution.**
- **Use the tool in a well-ventilated area.**
- **Verify that the tool has stopped before putting it down after use.**
- **Handling and storage of oil:** Use with adequate ventilation. Avoid contact of oil with eyes, skin and clothing. Avoid breathing spray or mist. Store in a tightly closed container in a cool, dry, well-ventilated area free from incompatible substances.
- **Do not use the tool near or below freezing temperatures,** as doing so may cause tool failure.
- **Do not store the tool in a freezing environment** to prevent ice formation on the operating valves of the tool, as doing may cause tool failure.



CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

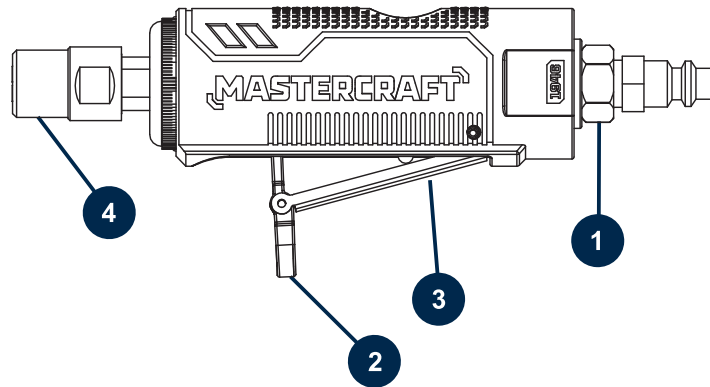
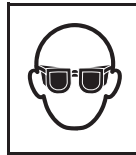
- Disconnect the tool from the air supply and turn off the compressor before changing any accessories, performing any maintenance, servicing, when the tool is not in use, when it is being handed to another person, and when it is left unattended. Failure to comply may result in moderate injury or damage to equipment.



- Use safety goggles and ear protection: Wear safety glasses with side shields when operating the tool/compressor and verify that others in the work area are also wearing safety glasses. Safety glasses must conform to American National Standards Institute (ANSI Z87.1) requirements and must provide protection from flying particles from the front and the sides.



Air-powered tools are loud and the sound can cause hearing damage. Always wear ear protection to help prevent hearing damage and loss. Failure to comply may result in moderate injury.



No.	Description	No.	Description
1	Air inlet	3	Trigger
2	Lock-off switch	4	Grinding collet/Chuck

Note: Recycle unwanted materials rather than disposing of them as waste. Sort the tools, hoses, and package in specific categories and take them to the local recycling center or dispose of them in an environmentally safe way.

General usage description

The Mastercraft® Air Full Die Grinder features a durable, lightweight composite housing designed to reduce vibration. The tool has a throttle-lever designed with a lock-off mechanism for added safety. Exhaust is discharged through the rear of the grinder. The tool is ideal for light weld breaking, grinding, porting, polishing applications, and for smoothing sharp edges.

Compatible compressor

GUIDELINES FOR PROPER USAGE AND OPERATION

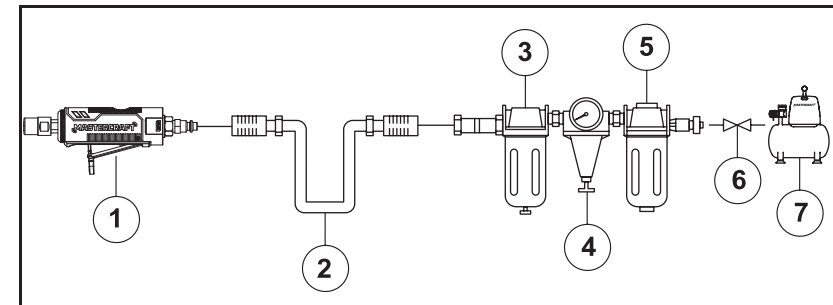
Always ensure the use of appropriately matched air tools and compressors. The compressor should be able to supply a minimal air delivery of 3 CFM @ 90 PSI to ensure the compressor can run continuously with the Mastercraft® Air Full Die Grinder. Using tools or a combination of tools that together or separately require air pressure more than that of which the air compressor can deliver will reduce performance and could void the compressor or tool guarantee/warranty.

Air Compressor Size & Power	2 HP	2 1/2 HP	3+ HP
5-6 Gallons	Light duty and intermittent use	Light duty and intermittent use	Medium duty and intermittent use
8-11 Gallons	Light duty and intermittent use	Medium duty and intermittent use	Heavy duty and continuous use
15+ Gallons	Medium duty and intermittent use	Heavy duty and continuous use	Heavy duty and continuous use

Air system

- Always use clean, dry, regulated, compressed air at 4 to 7 bar (60 to 100 PSI).
- Do not exceed the maximum and minimum pressures. Operating the tool at the wrong pressure (too low or too high) will cause excessive noise or rapid wear.

- It is recommended that a filter-regulator-lubricator be used and be located as close to the tool as possible.
- If a filter-regulator-lubricator is not installed, place up to 6 drops of pneumatic tool oil into the air inlet plug before each use.
- If a filter-regulator-lubricator is installed, keep the air filter clean. A dirty filter will reduce the air pressure to the tool, which will cause a reduction in power, efficiency, and general performance.



No.	Description	No.	Description
1	Mastercraft® Air Full Die Grinder	5	Filter
2	Air hose	6	Cut-off valve
3	Lubricator	7	Air compressor
4	Regulator 0 - 123 PSI (0 to 8.5 bar)		



CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

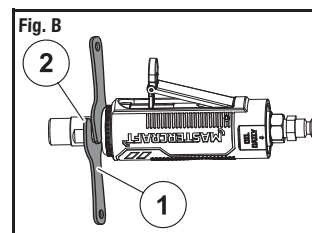
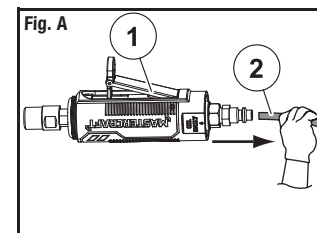
- Verify that all connections in the air supply system are sealed in order to prevent air from leaking. Failure to comply will result in moderate injury or damage to equipment.

Read this instruction manual thoroughly or have tool operators read thoroughly before using the tool.

- Read all safety guidelines (see section "Safety guidelines") at the beginning of this manual.
- Always inspect the air tool prior to each use to
 - ensure proper use of power source.
 - determine whether the tool is in proper working order.
- Only use accessories which are specifically designed for use with this tool (see section "Technical specifications").
- Drain the compressor tank daily. Water in the air supply line will damage the tool.
- Clean the air inlet and the filter weekly.
- Line pressure should be increased to compensate for unusually long air hoses. The hose diameter should be 3/8".

Loading and operation

1. Disconnect the tool (1) from the air hose (2) (Fig. A).



2. Use the two wrenches (1) to loosen the chuck (2). Insert a suitable grinding accessory into the chuck and firmly retighten the chuck to lock the grinding accessory in place using the wrenches (Fig. B).



WARNING!

Potential hazard that could result in serious injury or loss of life.

- Do not use the tool if it is not in proper working order.
- Do not use oxygen or any other combustible or bottled gas to power this tool.
- Do not use this tool in the presence of any flammable liquids or gases.
- Keep hose away from heat, oil, and sharp edges. Check hose for wear and tear, and ensure that all connections are secure. Failure to comply could lead to serious injury or loss of life.
- Keep hands and other parts of the body away from the work areas when connecting the air supply. Failure to comply could lead to serious injury or loss of life.

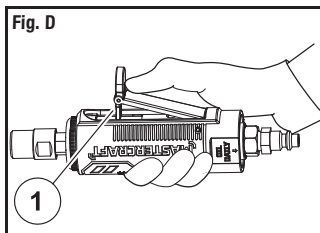
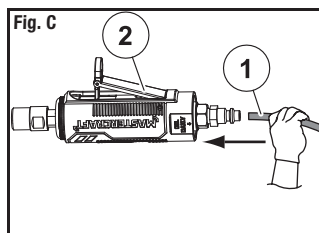


DANGER!

Potential hazard that will result in serious injury or loss of life.

- Carefully read all instructions provided in this manual and understand them thoroughly before using the tool.
- Do not use grinding accessories other than those that are specifically designed for use with this die grinder. Failure to comply will result in serious injury or loss of life.

3. Plug in compressor, turn it on and set the pressure regulator to 90 PSI. Attach one end of the air hose to the compressor and the other end of the air hose (1) to the tool (2). Use plumber's tape to avoid air leak (see section "Technical specifications") (Fig. C).

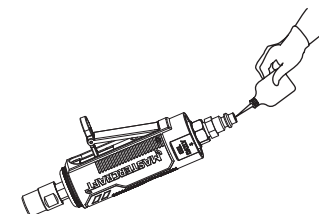


4. With a firm grip on the tool lightly press the trigger (1) and apply accessory to workpiece, slowly and steadily moving tool until achieving desired finish on the workpiece (Fig. D).

Maintenance

MAINTENANCE REQUIRED	DESCRIPTION	TOOLS OR MATERIALS REQUIRED	MAXIMUM SERVICE INTERVAL		
			Each use or every 2 hrs	Monthly	As Needed
General inspection for free movement	Trigger, spring, safety mechanism	None	X		
In-depth inspection	Worn or broken parts			X	X
Replace worn or broken parts					X
Lubrication	See below	Pneumatic tool oil	X		

- **Lubrication:** If the die grinder and the compressor are not equipped with an in-line lubrication system, place up to 6 drops of pneumatic tool oil into the air inlet before each work day or after every 2 hours of continuous use, depending on the characteristics of workpiece.



WARNING!

Potential hazard that could result in serious injury or loss of life.

- Hold the tool firmly with both hands. Always point abrasive material away from you while operating the tool.
- Do not apply additional or excessive force to the tool when grinding.
- Do not allow the tool to run free for an extended period of time. Doing so will shorten the life of the tool.
- Verify that the air supply is clean and air pressure does not exceed 90 PSI (6.3 bar) while operating the tool. If the air pressure is too high or unclear, it will shorten the life of the tool. Failure to comply could result in serious injury or loss of life.



WARNING!

Potential hazard that could result in serious injury or loss of life.

- Disconnect the tool from the air supply before changing accessories, servicing, or performing maintenance.
- Only use the tool after replacing or repairing the damaged parts or accessories.
- Use only recommended and properly rated replacement parts and accessories. Failure to comply will lead to serious injury or loss of life.
- Repairs must be performed by a qualified service technician.

- Air-operated tools must be inspected periodically, and worn or broken parts must be replaced in order to keep tools operating safely and efficiently.
- Inspect and replace worn or damaged O-rings, seals, etc. Tighten all screws and caps frequently in order to help prevent personal injury.
- Loss of power or erratic action may be due to the following
 - Excessive drain in the air line.
 - Moisture or restriction in the air pipe.
 - Incorrect size or type of hose connector. Check the air supply and follow instructions.
 - Grit or gum deposits in the Die Grinder may also reduce performance.
- Inspect the trigger, the spring, and the safety mechanism for free movement on a regular basis in order to ensure that the safety system is fully functional.
- Verify that no part is loose or missing and that no part is stuck or jammed.
- Disconnect the tool from the air supply, clean, and store it in a safe, dry, and childproof location, when tool is not in use.
- When temperatures are below freezing, keep tools as warm as possible using any safe, convenient method.
- Check the air supply for correct size and type of hose connectors. To avoid loss of power or erratic action, ensure that there is no additional drain on the air line and no moisture or restriction in the air pipe.

Storage

- Apply an ample amount of lubrication before storing the tool.
- Run the tool for approximately 30 seconds after lubricating, in order to ensure that the lubrication is uniformly distributed throughout the tool.
- Store the tool in a clean and dry environment.

Troubleshooting

The following chart lists common issues and solutions. Please read it carefully and follow all instructions closely.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool runs at normal speed but loses control under load.	1. Worn or damaged motor parts. 2. Cam clutch is worn or stuck due to insufficient lubrication.	1. Lubricate clutch housing. 2. Check for excess clutch oil as the clutch requires only fifty percent of oil fill. Overfilling can cause dragging of high speed parts. A typical oiled/lubricated Die Grinder requires 1/2 oz (14 mL) of oil. Grease Lubrication: Heat usually indicates insufficient amount of grease. Severe operating conditions may require frequent lubrication.
Tool runs slowly and air flows slightly from exhaust.	1. Motor parts are jammed. 2. Power regulator is in closed position. 3. Air flow is blocked due to dirt.	1. Check filter and air inlet for blockage. 2. Pour pneumatic tool oil into air inlet as per instructions. 3. Operate the tool in forward and/or reverse rotations within a short duration. Repeat the above steps as per requirements. If this fails, return the tool to the service centre.
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool is not running. Air flows freely from exhaust.	Motor vanes are stuck due to material build up.	1. Pour pneumatic tool oil into air inlet. 2. Operate the tool in forward and/or reverse rotation within a short duration. 3. Tap motor housing gently with plastic mallet. 4. Disconnect the tool from the air supply. Operate the motor manually by rotating drive shank (wherever applicable). 5. If tool remains jammed, return to service centre.
Tool does not shut off.	O-rings or throttle valve is dislodged from seat valve.	Replace O-rings or return to service centre.

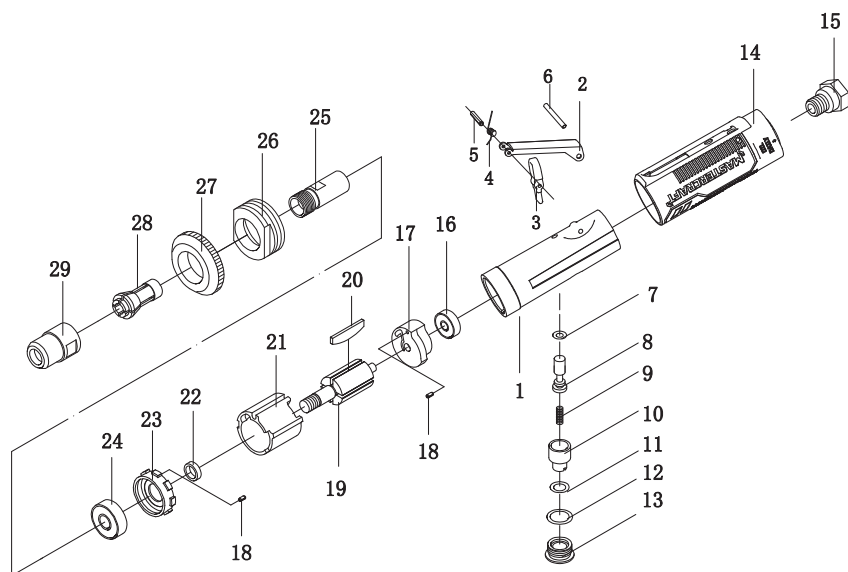
Note: For further repair information, please call 1-800-689-9928.



WARNING!

Potential hazard that could result in serious injury or loss of life.

- If any of the following problem appear while the tool is in use, turn it off and disconnect it from the air supply immediately. Failure to heed this warning will result in serious personal injury.
- Disconnect the tool from the air supply before making any adjustments.
- Repairs must be performed by a qualified service technician only.



No.	Description	Qty.	No.	Description	Qty.
1	Gun body	1	17	Rear cover	1
2	Trigger	1	18	Pin 2 x 6	2
3	Safety lock	1	19	Rotor	1
4	Spring	1	20	Rotor blade	4
5	Pin 2 x 16	1	21	Cylinder	1
6	Pin 3 x 24	1	22	Bushing	1
7	O-ring 3.75 x 1.8	1	23	Front cover	1
8	Pin	1	24	Bearing 608z	1
9	Spring	1	25	Chuck seat	1
10	Adjusting knob	1	26	Lock ring	1
11	O-ring 7 x 2	1	27	Front plate	1
12	O-ring 11 x 2	1	28	Chuck	1
13	Nut	1	29	Chuck screw	1
14	Housing	1			
15	Air inlet plug	1			
16	Bearing 625z	1			

If any parts are missing or damaged, or if you have any questions, please call 1-800-689-9928.

3-Year Limited Warranty

This product is guaranteed for a period of three (3) years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of one (1) year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with proof of purchase within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

These warranties are subject to the following conditions and limitations:

- a) A bill of sale verifying the purchase and purchase date must be provided.
- b) This warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect, or lack of proper installation, operation, or maintenance (as outlined in the applicable instruction manual or operating instructions), or which is being used for industrial, professional, commercial, or rental purposes.
- c) This warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.
- d) This warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups, or adjustments.
- e) This warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer).
- f) This warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing).

- g) This warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons.
- h) This warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat, or abrasives and chemical cleaners.
- i) This warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential, or exemplary damages arising in connection with the sale, use, or inability to use this product.

Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim, or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

Made in China

Imported by Mastercraft Canada Toronto, Canada M4S 2B8